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Habitat occupancy of endangered rhino horned lizard (*Ceratophora stoddartii*) in Horton plains national park, Sri Lanka

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Habitat occupancy of endangered and endemic Rhino Horned Lizard (*Ceratophora stoddartii*) was studied in the cloud forests, cloud forest die-back habitat, ecotone between forest and grasslands and grasslands of the Hortain Plains National Park of Sri Lanka from January 2015 to May 2015. *C. stoddartii* is easily distinguished from all other *Ceratophora* species by the presence of a prominent rostral appendage, which is made up of the rostral scale. The species is extremely slow moving and is semi arboreal. Three 100 m transects were marked across each of the four habitat types and the lizards were observed within a 3 m swath of each transact. Each transect was surveyed three times a day and all lizards observed were hand captured, measured and sexed. 163 lizards were recorded during the survey. Significantly higher number of lizards were observed in the Cloud forest die-back habitat (n = 97, 59.5% of the total) and the cloud forest habitat (n = 48, 29.4%). Low number of lizards were recorded in the ecotone between forest and grassland (n = 18, 11.0%). No lizards were recorded in the grasslands. The four habitat types differed significantly from one another in climatic and structural features. The occupied sites within the three habitats too varied significantly in all variables ($p < 0.05$). Both temperature ($F_{3,16} = 24.76$, $p < 0.05$) and humidity ($F_{3,16} = 11.99$, $p < 0.05$) had a significant effect on the probability of lizard occurrence at a site. The temperature differed significantly among the four habitat types ($p < 0.001$) and relationship between the air temperature and the *C. stoddartii* population density was negative (Pearson correlation, $r = -0.5094$, $p < 0.05$). There was a significant positive relationship between the relative humidity and the mean *C. stoddartii* population density (Pearson correlation, $r = 0.8164$, $p < 0.05$). Lowest relative humidity was recorded from the grasslands (65.29 ± 7.69^{d} %) and lizards were not observed). The leaf litter depth did not have any significant effect ($p > 0.05$) on the probability of lizard occurrence in a site. The highest leaf litter depth was recorded within the Cloud Forest Die-back. The high amount of leaf litter and optimum solar radiation at this site may have created a suitable environment towards the hatchability of the *C. stoddartii* eggs as the juveniles showed a significant preference for locations with a higher amount of leaf litter ($\chi^2 = 0.3758$, $p < 0.0001$).

Key words: *Ceratophora stoddartii*, relative humidity, air temperature, cloud forests, Sri Lanka